



Klamath County Fire District No. 1

Physical Ability Test

Orientation Guide

The physical ability test (PAT) consists of eight separate events that require the candidate to progress along a predetermined path from event to event, in a continuous manner. This test was developed to allow KCFD1 to obtain candidate pools that are trainable and physically able to perform the essential job function of a Firefighter. This test is designed to closely mirror the IAFC/IAFF supported CPAT. **This is a pass/fail test based on a maximum total time of eleven (11) minutes.**

Candidates must wear long pants and footwear with no open heel or toe throughout the PAT. A hard hat and work gloves will be provided. Watches and loose or restrictive jewelry are not permitted. In the events, the candidate is given a 50-pound vest to wear which simulates the weight of self-contained breathing apparatus (SCBA) and firefighter protective clothing. An additional 25 pounds is added to the shoulders for the stair climb event.

Each candidate must present valid identification and complete required forms prior to taking the PAT. Candidates are provided the opportunity to review the PAT instructions and failure points. It is the candidate's responsibility to ask questions regarding any part of the test events or procedures. Candidates are required to complete the Waiver and Release Form. Each candidate's vitals (pulse rate, breathing rate, and blood pressure) will be taken prior to the start of the test, at the completion of the test, and again after the required 15-minute recovery period. The candidates must remain in the rehab area until the conclusion of the 15-minute recovery period and recording of the vitals. If the candidate leaves prior, it is a fail of the Physical Ability Test.

All props have been designed to obtain the necessary information regarding the candidate's physical ability. The tools and equipment have been chosen to provide consistency and safety in measuring physical abilities. A schematic drawing of the physical ability test is included at the end of this orientation material, however, the course layout may vary in order to conform to KCFD1's test area.

The events are placed in a sequence that best simulate fire scene events while allowing an 85-foot walk between events. This walk allows candidates approximately 20 seconds to recover and regroup before each event. To ensure the highest level of safety and prevent exhaustion, no running is allowed between events.

Two stopwatches will be used to time the Physical Ability Test to ensure accuracy and eliminate timer failure. One stopwatch is designated as the official test time stopwatch and the second is a backup. If mechanical failure occurs to the first stopwatch, the time on the backup stopwatch will be used. If time elapses prior to the completion of the test, the test is concluded.

If there is a malfunction with any piece of the testing equipment during the testing, not caused by the candidate's actions, the Timer will immediately stop the time. If the malfunction can be corrected within 30 seconds, the candidate's time will be restarted as soon as the malfunction is cleared and the candidate will be required to continue the test until completion. If a malfunction occurs (not caused by the candidate's actions) that cannot be corrected within 30 seconds that candidates test will be concluded. The candidate shall be afforded an opportunity to retake the PAT and will be given another scheduled test time.

Event 1: Stair Climb

Equipment

This event uses a stair climbing machine. This machine has handrails available to grasp while mounting and dismounting the climbing machine.

Purpose of Evaluation

This event is designed to simulate the critical tasks of climbing stairs in full protective clothing while carrying a high-rise pack (hose bundle) and climbing stairs in full protective clothing carrying fire fighter equipment. This event challenges the candidate's aerobic capacity, lower body muscular endurance, and ability to balance. This event affects the aerobic energy system, as well as, the following muscle groups: quadriceps, hamstrings, glutes, calves, and lower back stabilizers.

Event

For this event, candidates must wear an additional 25 pounds (11.34 kg) of weight on the shoulders to simulate the weight of a high-rise pack. Prior to the initiation of the timed PAT, there is a 20-second warm-up on the climbing machine at a set step rate of 50 steps per minute. During this warm-up period, candidates are permitted to dismount and grasp the rails to establish balance and cadence. If the candidate falls or dismounts the machine during the 20-second warm-up period, they must remount and restart the entire 20-second warm-up period. The candidate is allowed to restart the warm-up period two (2) times. The timing of the test begins at the end of this warm-up period, when the proctor calls the word "START." There is no break in time between the warm-up period and the actual timing of the test. For the test, the candidate must walk on the climbing machine at a set step rate of 60 steps per minute for three (3) minutes. At the end of the three (3) minutes, the event is concluded. The additional 25 pounds (11.34 kg) of weight is removed from the shoulders. The candidate then will walk 85 feet within the established walkway to the next event.

Failures

If the candidate falls or dismounts the machine three (3) times during the warm-up period, the test is a fail. If the candidate falls or dismounts the machine after the timed PAT begins, the test is concluded and is a fail. During the test, the candidate is permitted to touch handrails for balance only. However, if the handrail is used for weight bearing, the candidate will receive a warning. Only two (2) warnings are given. A third infraction constitutes a failure and the test time is concluded.

Event 2: Hose Drag

Equipment

This event uses an uncharged fire hose with a hose line nozzle. The hose line is marked at 8 feet past the coupling at the nozzle to indicate the maximum amount of hose the candidate is permitted to drape across the shoulder or chest. The hose line is also marked at 50 feet past the coupling at the nozzle to indicate the amount of hose line that the candidate must pull into a marked boundary box before completing the test.

Purpose of Evaluation

This event is designed to simulate the critical tasks of dragging an uncharged hose line from a fire apparatus to the fire occupancy and pulling an uncharged hose line around obstacles while remaining stationary. This event challenges the candidate's aerobic capacity, lower body muscular strength and endurance, upper back muscular strength and endurance, grip strength and endurance, and anaerobic endurance. This event affects the aerobic and anaerobic energy systems, as well as, the following muscle groups: quadriceps, hamstrings, glutes, calves, lower back stabilizers, biceps, deltoids, upper back, and muscles of the forearm and hand (grip).

Event

For this event, the candidate must grasp a hose line nozzle attached to 200 feet of 1 3/4-inch hose, place the hose line over the shoulder or across the chest, not exceeding the 8-foot mark. Candidates are permitted to run during the hose drag. The candidate will drag the hose 75 feet to a pre-positioned drum, make a 90° turn around the drum, continue an additional 25 feet, stop within the marked 5 x 7-foot box, and drop to at least one (1) knee and pull the hose line until the hose line's 50-foot mark crosses the finish line. During the hose pull, the candidate must keep at least one (1) knee in contact with the ground and knee(s) must remain within the marked boundary lines. This concludes this event. The candidate will then walk 85 feet within the established walkway to the next event.

Failures

During the hose drag, if the candidate fails to go around the drum or goes outside of the marked path (cones), the test time is concluded and the test is failed. During the hose pull, the candidate is warned if at least one (1) knee is not kept in contact with the ground. A second infraction constitutes a failure and the test is stopped. During hose pull, the candidate is warned if the knees go outside the marked boundary line. A second infraction constitutes a failure and the test time is concluded.

Event 3: Equipment Carry

Equipment

This event uses two (2) saws and a tool cabinet replicating a storage cabinet on a fire truck.

Purpose of Evaluation

This event is designed to simulate the critical tasks of removing power tools from a fire apparatus, carrying them to the emergency scene, and returning the equipment to the fire apparatus. This event challenges the candidate's aerobic capacity, upper body muscular strength and endurance, lower body muscular endurance, grip endurance, and balance. This event affects the aerobic energy system, as well, as the following muscle groups: biceps, deltoids, upper back, trapezius, muscles of the forearm and hand (grip), glutes, quadriceps, and hamstrings.

Event

For this event, the candidate must remove the saws from the tool cabinet one (1) at a time and place them both on the ground. The candidate then picks up both saws, one (1) in each hand, and carries them while walking 75 feet around a drum and back to the starting point. The candidate is permitted to place the saw(s) on the ground and to adjust grip. Upon return to the tool cabinet, the candidate places the saws on the ground, picks up each saw one (1) at a time and replaces the saw in its designated space in the cabinet. This concludes the event. The candidate then walks 85 feet within the established walkway to the next event.

Failures

If the candidate drops either saw on the ground during the carry, the test time is concluded and the test is a fail. The candidate can receive one (1) warning for running. A second infraction constitutes a failure and the test time will conclude.

Event 4: Ladder Raise and Extension

Equipment

This event uses two (2) 24-foot fire department ladders. A retractable lanyard is attached to the ladder that is raised for safety.

Purpose of Evaluation

This event is designed to simulate the critical tasks of placing a ground ladder at a structure fire and extending the ladder to the roof or window. This event challenges the candidate's aerobic capacity, upper body muscular strength, lower body muscular strength, balance, grip strength, and anaerobic endurance. This event affects the aerobic and anaerobic energy systems, as well as, the following muscle groups: biceps, deltoids, upper back, trapezius, muscles of the forearm and hand (grip), glutes, quadriceps, and hamstrings.

Event

For this event, the candidate must walk to the top rung of the 24-foot aluminum extension ladder, lift the unhinged end from the ground, and walk it up until it is stationary against the wall. This must be done in a hand over hand fashion, using each rung until the ladder is stationary against the wall. The ladder rails cannot be used to raise the ladder. The candidate will immediately proceed to the pre-positioned and secured 24-foot aluminum extension ladder, stand with both feet within the marked box of 36 x 36 inches, and extend the fly section, hand over hand, until it hits the stop. Next the candidate will lower the fly section, hand over hand, in a controlled fashion to the starting position. This concludes the event. The candidate will then walk 85 feet within the established walkway to the next event.

Failures

If a rung is missed during the raise, one (1) warning will be given. A second infraction constitutes a failure and the test time is concluded. If the ladder falls to the ground or the safety lanyard is activated because the candidate releases their grip on the ladder, the test time will be concluded and the test is failed. If the candidate's feet do not remain within marked boundary lines during the ladder extension, one (1) warning will be given. A second infraction constitutes a failure and the test time will be concluded. If control of the ladder is not maintained in a hand over hand manner, or the rope halyard slips in an uncontrolled manner, the test time will conclude and the test is a fail.

Event 5: Forcible Entry

Equipment

This event uses an 8-pound dead blow sledgehammer to drive an object.

Purpose of Evaluation

This event is designed to simulate the critical tasks of using force to open a locked door or to breach a wall. This event challenges the candidate's aerobic capacity, upper body muscular strength and endurance, lower body muscular strength and endurance, balance, and grip strength and endurance. This event affects the aerobic and anaerobic energy systems, as well as, the following muscle groups: quadriceps, glutes, triceps, upper back, trapezius, and muscles of the forearm and hand (grip).

Event

For this event the candidate will stand on an elevated platform and swing an 8-pound sledgehammer to strike a beam until it is moved to the finish area. During this event, the feet must remain on the platform treads, outside the beam-box, at all times. When complete, the candidate will place the sledgehammer on the ground. This concludes the event. The candidate will walk 85 feet within the established walkway to the next event.

Failures

If control of the sledgehammer is not maintained and it is released from both hands while swinging, it constitutes a failure and the test time will conclude. If any part of the equipment is struck with the sledgehammer handle and the handle is broken, it constitutes a failure and the test time will conclude. If the beam is struck with the handle of the sledgehammer, one (1) warning will be given. A second infraction constitutes a failure and the test time will conclude. If the candidate attempts to move the beam in a manner not directly resulting from a strike, one (1) warning will be given. A second infraction constitutes a failure and the test time will conclude. If the trough of the skid is struck, one (1) warning will be given. A second infraction constitutes a failure and the test time will conclude. If the candidate steps inside the trough of the skid, one (1) warning will be given. A second infraction constitutes a failure and the test time is concluded.

Event 6 Search

Equipment

This event uses an enclosed search maze that has obstacles and narrowed spaces.

Purpose of Evaluation

This event is designed to simulate the critical task of searching for a fire victim with limited visibility in an unpredictable area. This event challenges the candidate's aerobic capacity, upper body muscular strength and endurance, agility, balance, anaerobic endurance, and kinesthetic awareness. This event affects the aerobic and anaerobic energy systems, as well as, the following muscle groups: muscles of the chest, shoulder, triceps, quadriceps, abdominals, and lower back.

Event

For this event, the candidate must crawl through a tunnel maze that is approximately three (3) feet high, four (4) feet wide, and 64 feet in length with two (2) 90° turns. The candidate must navigate around, over, and under obstacles throughout the maze. There are two (2) locations in which the candidate must crawl through a narrowed space where the tunnel dimensions reduce. The candidate's

movement is monitored through the maze. If for any reason the candidate commands to end the event, they must call out or rap sharply on the wall or ceiling and they will be assisted out of the maze. Upon exit from the maze, the event is concluded. The candidate will then walk 85 feet within the established walkway to the next event.

Failures

A request for assistance requiring opening of the escape hatch or entrance/exit covers constitutes a failure and the test time is concluded.

Event 7: Rescue

Equipment

This event uses a weighted mannequin equipped with a harness and shoulder handles.

Purpose of Evaluation

This event is designed to simulate the critical task of removing a victim or injured partner from a fire scene. This event challenges the candidate's aerobic capacity, upper and lower body muscular strength and endurance, grip strength and endurance, and anaerobic endurance. This event affects the aerobic and anaerobic energy systems, as well as, the following muscle groups: quadriceps, hamstrings, glutes, abdominals, torso rotators, lower back stabilizers, trapezius, deltoids, latissimus dorsi, biceps, and muscles of the forearm and hand (grip).

Event

The candidate must grasp the 165-pound mannequin by the handle(s) on the shoulder(s) of the harness (either one (1) or both handles are permitted), drag it 35 feet to a pre-positioned drum, make a 180° turn around the drum, and continue an additional 35 feet to the finish line. The candidate is not permitted to grasp or rest on the drum. It is permissible for the mannequin to touch the drum. The candidate is permitted to drop and release the mannequin and adjust grip. The entire mannequin must be dragged until it crosses the marked finish line. This concludes the event. The candidate will then walk 85 feet within the established walkway to the next event.

Failures

If the candidate grasps or rests on the drum at any time, one (1) warning will be given. A second infraction constitutes a failure and the test is concluded.

Event 8: Ceiling Breach and Pull

Equipment

This event uses a mechanized device that measures overhead push and pull forces and a pike pole. The pike pole is a commonly used piece of equipment that consists of a 6-foot long pole with a hook and point attached to one end.

Purpose of Evaluation

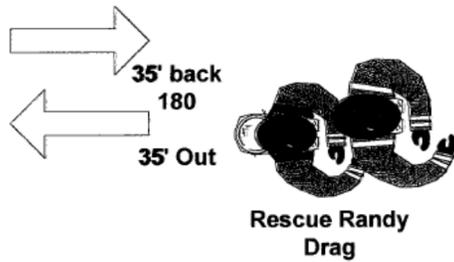
This event is designed to simulate the critical task of breaching and pulling down a ceiling to check for fire extension. This event challenges the candidate's aerobic capacity, upper and lower body muscular strength and endurance, grip strength and endurance, and anaerobic endurance. This event affects the aerobic and anaerobic energy systems, as well as, the following muscle groups: quadriceps, hamstrings, glutes, abdominals, torso rotators, lower back stabilizers, deltoids, trapezius, triceps, biceps, and muscles of the forearm and hand (grip).

Event

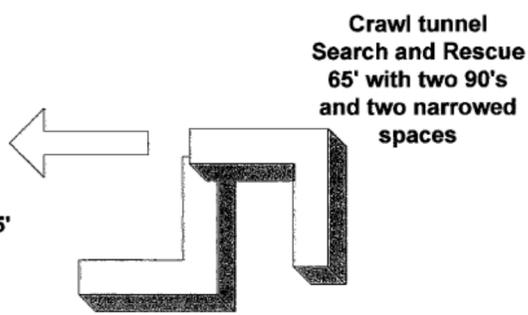
For this event, the candidate must pick up the pike pole from the established bracket and place the tip of the pole on the painted area of the hinged door in the ceiling while fully push up the 60-pound hinged door in the ceiling with the pike pole three (3) times. Then, hook the pike pole to the 80-pound ceiling device and pull the pole down five (2) times. Each set consists of three (3) pushes and five (5) pulls. Repeat the set four (4) times. The candidate is permitted to stop and, if needed, adjust grip. Releasing grip or allowing the pike pole handle to slip, without the pike pole falling to the ground, does not result in a warning or constitute a failure. The candidate is permitted to re-establish grip and resume the event. If the candidate does not successfully complete a repetition, the proctor calls out "MISS" and the candidate must push or pull the apparatus again to complete the repetition. This event and the total test time ends when the candidate completes the final pull stroke repetition as indicated by a proctor who calls out "TIME."

Failures

One (1) warning is given if the pike pole is dropped to the ground. If the pike pole is dropped, it must be picked up without proctor assistance and the event must resume. A second infraction constitutes a failure and the test is concluded. If the feet do not remain within the marked boundary lines, one (1) warning will be given. A second infraction constitutes a failure and the test is concluded.



Rescue Randy Drag



85'

85'



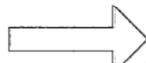
Ceiling Breach and Pull
Push 60 lbs x3
Pull 80lbs x 5
Repeat 4 times



Sled

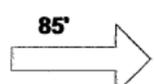
75'

75'
Hose Drag



50'

Stop And Kneel



85'

Remove two saws from the Truck

Replace the saws and walk
85'

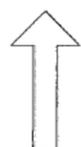


1 3/4"



Stair Step 60 steps for 3 minutes

Ladder Raise
Flat raise the ladder to a building and
Ladder Extension
Ladder is fixed to an object F/F extends the ladder and retracts the ladder



85'